REMARKS

This application has been carefully reviewed in light of the above-referenced Office Action in which all claims remaining after restriction were rejected. Applicants respectfully traverse the rejections and requests reconsideration in view of the following:

Interview Request

Applicant's representatives respectfully request the courtesy of a personal or telephonic interview with the Examiner.

The Provisional Double Patenting Rejection

Applicants submit herewith an executed terminal disclaimer that obviates this rejection. Hence, removal of the rejection is believed appropriate and is respectfully requested.

The Herley Reference as contrasted with Applicants' teachings

The equivalent of this reference in the form of the published application (US2002/0108035) was submitted in this application by Applicants in an Information Disclosure Statement. Applicants were aware of this reference and the claims of the present application were drafted to assure that they circumvent this reference.

Herley describes a technique in which selected portions of content such as a picture or video image are selected as depicted in Figs. 3 and 4 for encryption. Those selected segments are encrypted and placed in a separate file from the remaining portion of the file. Both files can then be transmitted to a recipient who decrypts the encrypted file and combines it with the other file to reconstruct the original data.

This is a technique that Applicants and others refer to as "selective encryption". This technique differs from Applicants' claimed invention in that Applicants have discovered what is termed "multiple selective encryption" or "multiple partial encryption" (or similar terms). This discovery is described in the specification, but briefly and without intent to impose any limitation, in certain embodiments, segments of the content

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are selected according to a selection criteria. Those selected segments are then encrypted using at least two encryption methods so that where a single selected segment appeared in the original content, multiple copies of the content encrypted using multiple encryption methods are created and inserted in place of the originally selected segments. Thus, for example, where one clear segment previously existed, two or more encrypted segments (containing the same content encrypted under different encryption methods) are inserted. In certain embodiments, this permits the same content to be used by receiver devices having capabilities of decrypting either of the encrypted segments – thus permitting the same content to be used with multiple receiver devices at a cost of only a few percent of the available bandwidth.

The Rejections under 35 U.S.C. §102

Claims 1-7, 9-10, 12-14, 19-26, 28-30, 90-96 and 99-110 were rejected as anticipated by the Herley reference. The Herley reference and an exemplary embodiment of the claimed invention are described above. Applicants respectfully request reconsideration in view of the following:

Regarding claims 1, 19, 90 and 101, Applicants respectfully traverse the rejection. The Office Action asserts that Herley discloses "encrypting the sample according to a first encryption method to create first encrypted sample and encrypting the sample according to a second encryption method to create a second encrypted sample (col. 3, lines 24-29 and fig. 4)." However, this is not an accurate portrayal of Herley's teachings at col. 3, lines 24-29 and fig. 4. This passage merely indicates that instead of splitting the original file into two files (see above – one encrypted and one clear), the file could be split into any number of files, which can be encrypted using the same or different encryption. To illustrate graphically, Herley's example illustrates the following. In the figure below, the output as described in Herley is depicted as circled "A". The statement referenced in the Office action, simply means that the original file (at the very top) could be split into any number of files as shown in circled "B", and that the

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encryption used for the two encrypted files illustrated below could be different or the same. The teachings referenced teach and suggest nothing more.
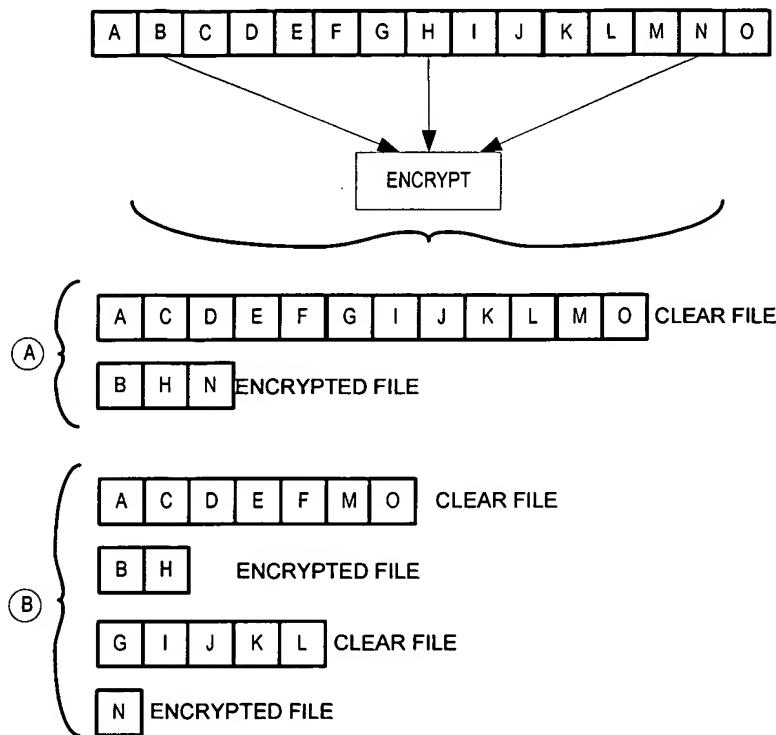
Referring now to Applicants' claims, first note that Herley <u>never</u> encrypts a single selected segment (e.g., B, H and N in the example above) using more than one encryption mechanism. Second, note that Herley never assembles the final selectively encrypted content into a single file, but instead, chooses to keep the encrypted segments in a separate file from unencrypted segments. The output streams shown in Fig. 4 and Fig. 7, for example, are illustrative of embodiments consistent with Applicants' claims. Note that in each example, two duplicate packets encrypted under different encryption methods appear in the output streams (EA and EB).

With reference to claims 1 and 19, claim 1 clearly requires that the content be a television program wherein the unencrypted television program is sampled "at a

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specified time interval" and "for each sample: encrypting the sample according to a first encryption method to create a first encrypted sample; and encrypting the sample according to a second encryption method to create a second encrypted sample." Hence, a single sample is encrypted using both a first and a second encryption method to create first and second encrypted samples. Claim 19 has similar requirements. As explained above, these features are not met by Herley, hence there can be no anticipation.

With reference to claim 90 and 101, these claims contain similar requirements, but specify further that the selected segments are frames of a television program. Thus, similar arguments can be applied with the additional distinction of the encrypted selection comprising frames. As above, these features are not met by Herley, and hence, the claims cannot be anticipated.

Regarding claims 2 and 20, the Office Action asserts that first encrypted samples are combined with unsampled portions to produce partially encrypted programs (col. 2, lines 20-27). However, Herley clearly indicates that the encrypted portions are always kept in files that are separate from the unencrypted portions. Even the selected passage cited in the Office Action indicates that the content is divided. Reference to Fig. 2 of Herley makes it clear at 225 and 230 that two separate files are transmitted to and received by the recipient. Hence, not only does Herley never make multiple encrypted copies of the selected segments, he never puts such multiple copies together in the form of encrypted and unencrypted content. As best the undersigned can determine, the content is only rejoined after the encrypted file is decrypted (at 245). Hence, the features of claims 2 and 20 are not met and there can be no anticipation.

Regarding claims 3 and 31, while Herley discloses distribution of his partially encrypted content, there is no teaching or suggestion of distributing content the meets the claim features of the parent claims. Herley clearly distributes multiple files that are segregated according to encrypted or not encrypted as described above. Hence, claims 3 and 31 are also not anticipated.

Regarding claims 4 and 22, the Office Action alleges that fig. 3 and col. 3, lines 1-6 teach the PID assignment characteristics added in these claims. The undersigned has examined these cited passages and finds no such teaching or suggestion. The term PID or Packet Identifier are well understood terms in the art of digital video. Not only does the cited passage and figure fail to teach this feature, but a word search of Herley fails to reveal use of either the term "PID" or "Packet Identifier", and the undersigned is unable to identify any equivalent teaching or suggestion. Hence, claims 4 and 22 cannot be anticipated.

Regarding claims 5, 23, 6, 7 and 26, the above remarks regarding claims 4 and 22 are equally applicable. Herley not only fails to describe use of PIDs, but further fails to disclose assignment of either primary or secondary PIDs. The disclosure of col. 3, lines 1-29 do not provide any further disclosure that would be relevant to rejection of these claims. Hence, claims 5, 23, 6, 7 and 26 are not anticipated by Herley.

Regarding claims 9 and 27, the above arguments with respect to claims 1 and 19 remain equally applicable. Accordingly, claims 9 and 27 cannot be anticipated.

Regarding claims 10 and 28, the Office Action asserts that Herley discloses in fig. 3 that each sample comprises at least one packet of data. However, there is nothing about fig. 3 or elsewhere in Herley that teaches or suggests this claim feature. Thus, there can be no anticipation.

Regarding claim 12, Herley discloses distributing encrypted file(s) separately from unencrypted file(s). Herley fails, however, to distribute "one of the first and second encrypted samples separately from unsampled portions of the unencrypted television program" because Herley fails to generate such first and second encrypted samples meeting the features required by the claims. In accordance with the limitations of claim 1, it must be noted that the first and second encrypted samples are the same sample encrypted by first and second encryption methods. Herley fails to teach or suggest this, therefore, there is no anticipation.

Regarding claims 23, 29, 14 and 30, Applicants submit that even if the elements added in these claims can be deduced from the cited passages and figures of Herley,

the remaining features of the claims from which these are dependent remain unmet. Hence, there can be no anticipation.

Regarding claims 24 and 25, the remarks regarding claims 4 and 22 are equally applicable. Hence, there is no anticipation.

Regarding claim 91, the remarks regarding claims 2 and 20 as well as the remarks regarding claims 3 and 31 are equally applicable. Thus, there can be no anticipation.

Regarding claim 92, the features of the parent claims 90 and 91 are not taught by Herley. Therefore, there can be no anticipation by Herley.

Regarding claims 93-96, the above remarks regarding claims 5-7 are equally applicable.

Regarding claims 99 and 100, the remarks regarding parent claim 90 are. applicable. Since the parent claim features are not met by Herley, there can be no anticipation.

Regarding claims 102 and 103, the remarks regarding claim 101 are equally applicable. Additionally, Herley never combines encrypted and unencrypted parts together. They are only combined after decryption. Hence there is no anticipation.

Regarding claims 104-110, the remarks regarding claims 91-100 above are equally applicable and there is no anticipation.

In view of the above remarks, there is clearly no viable anticipation rejection presented establishing *prima facie* unpatentability. Accordingly, reconsideration is respectfully requested.

The Rejections under 35 U.S.C. §103

Claims 8, 11, 31-32, 34-48, 69-70, 84-89 and 97-98 were rejected as obvious in view of Herley. Applicant respectfully traverses on the following grounds:

Regarding claims 8 and 97, Applicant notes again that Herley does not in fact disclose or suggest anything about PIDs. Furthermore, Herley does not in fact disclose or suggest a television program having primary and secondary PIDs associated with

first and second encrypted samples where the same sample is encrypted using two encryption methods. In view of these facts, the assertion that transmitting system information to identify the primary and secondary PIDs that identify components of a television is simply far beyond any suggestion in the art, and certainly beyond any suggestion that one having ordinary skills would deduce from an accurate reading of Herley. Additionally, the failure of Herley to meet or suggest the features of the parent claims as discussed above is further indicative of any obviousness of claims 8 and 97. It has been clearly established that the art must teach or suggest each and every claim feature in order to establish *prima facie* obviousness. The only suggestion to make the proposed modification is found in Applicants' teachings. Hence, Applicants submit that no case of *prima facie* obviousness has been established. The Examiner's attention is directed to MPEP 2143.03 and 2143.01 (I).

Regarding claims 11 and 98, the Office Action takes Official Notice that random time intervals are known in the art. The Office Action appears to contain an omission or typographical error in the language of this rejection, but apparently asserts that it would have been obvious to employ random time intervals to produce unpredictable time based encryption information to discourage hackers. However, *prima facie* obviousness has not been established since no line of reasoning has been presented as to where such a suggestion or motivation comes from. There must be some line of reasoning based upon the teachings, motivations and suggestions in the art to support such an assertion. Absent such a line of reasoning, one can only again conclude that the reasoning comes from an improper hindsight analysis of the claims. Additionally, the above remarks regarding the shortcomings of the parent claims is equally applicable, demonstrating that each and every claim feature has not been properly considered and found in the art. Hence, Applicants submit that no case of *prima facie* obviousness has been established. If this rejection is maintained, clarification is respectfully requested in view of the apparent error in the text of the rejection. The Examiner's attention is directed to MPEP 2143.03 and 2143.01 (I).

Regarding claims 31, 44, 69 and 84, the Office Action again asserts that Herley teaches encrypting a single sample with first and second encryption methods to produce first and second encrypted samples. However, this is not the case. Accordingly, all claim features have not been properly considered as required to establish *prima facie* obviousness. The Office Action further correctly asserts that Herley does not disclose encrypting N periods out of every M periods. However, the Office Action apparently concludes that each file requires different time periods to minimize error rates. Applicants respectfully request that this rejection, if maintained, be clarified since Applicants are unable to understand the Examiner's reasoning. Applicants again note that there is no line of reasoning leading to the suggestion to modify Herley as proposed. Accordingly, it must be concluded that the conclusion of obviousness is based upon an improper hindsight analysis. The Examiner's attention is directed to MPEP 2143.03 and 2143.01 (I).

Regarding claim 32, the Office Action asserts that combining first and second encrypted periods with unencrypted periods is disclosed in fig. 3 of Herley. This is an erroneous assertion. Applicants note that fig. 3 of Herley specifically calls for the combination of unencrypted portions to take place with <u>decrypted</u> segments (look above the = sign). This is consistent with steps 235 and 245 of fig. 2 and the description of Herley in general. If the combination is made prior to decryption, as in Applicants' claims, there is no teaching in Herley as to how to carry out the decryption. Furthermore, there is no suggestion as to what modification must be made to Herley to meet the claimed features and no reasoning presented as to why such modification would be suggested to one of ordinary skill in the art. Hence, any modification to Herley to meet these claim features involves a fundamental change in the principle of operation of Herley. This is prohibited in establishment of *prima facie* obviousness as noted in MPEP 2143.01 (VI).

Regarding the rejection to claims 34-43 and 45-48, as noted above, Herley contains no teaching of PIDs in fig. 3. Additionally, the claim features relating to there being a single segment of content encrypted under multiple encryption methods is not

shown or suggested in Herley. Furthermore, there is no suggestion as to what modification must be made to Herley to meet the claimed features and no reasoning presented as to why such modification would be suggested to one of ordinary skill in the art. Accordingly, *prima facie* obviousness has not been established. The Examiner's attention is directed to MPEP 2143.03 and 2143.01 (I).

Regarding claim 70, the Office Action asserts that Herley discloses filtering out the N periods encrypted according to the second encryption method. The undersigned has reviewed the cited passages and finds no such teachings when interpreted in light of the features of the parent claim. Furthermore, there is no suggestion as to what modification must be made to Herley to meet the claimed features and no reasoning presented as to why such modification would be suggested to one of ordinary skill in the art.

Regarding claims 71 and 86, the Office Action asserts that Herley discloses filtering is carried out by filtering on a packet identifier in fig. 2. The undersigned finds no such teachings, or teachings as noted previously for certain limitation in the parent claims. Furthermore, there is no suggestion as to what modification must be made to Herley to meet the claimed features and no reasoning presented as to why such modification would be suggested to one of ordinary skill in the art. The Examiner's attention is directed to MPEP 2143.03 and 2143.01 (I).

Regarding claims 72, 74, 75, 76 and 77, the remarks regarding claim 69 are equally applicable.

Regarding claim 73, the Office Action asserts that Herley discloses a period comprising at least one packet of data in fig. 3. The undersigned finds no such teachings, or teachings as noted previously for certain limitation in the parent claims. Furthermore, there is no suggestion as to what modification must be made to Herley to meet the claimed features and no reasoning presented as to why such modification would be suggested to one of ordinary skill in the art. The Examiner's attention is directed to MPEP 2143.03 and 2143.01 (I).

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Regarding claim 78, the Office Action asserts that Herley discloses an integrated circuit at col. 6, lines 11-13. The undersigned finds no explicit teachings thereof, and further finds no teachings as noted previously for certain limitation in the parent claims. Furthermore, there is no suggestion as to what modification must be made to Herley to meet the claimed features and no reasoning presented as to why such modification would be suggested to one of ordinary skill in the art. The Examiner's attention is directed to MPEP 2143.03 and 2143.01 (I).

Regarding claim 79, the Office Action asserts that Herley discloses an application specific integrated circuit in, programmable logic device or field programmable gate array in fig. 5. The undersigned finds no such teachings, or teachings as noted previously for certain limitation in the parent claims. Furthermore, there is no suggestion as to what modification must be made to Herley to meet the claimed features and no reasoning presented as to why such modification would be suggested to one of ordinary skill in the art. The Examiner's attention is directed to MPEP 2143.03 and 2143.01 (I).

Regarding claim 85, the Office Action asserts that Herley discloses filtering out N periods encrypted according to a second encryption method at fig. 2, and col. 24-29. The undersigned notes that no such columns exist in the Herley reference, but nevertheless finds no such teachings, or teachings as noted previously for certain limitation in the parent claims. Furthermore, there is no suggestion as to what modification must be made to Herley to meet the claimed features and no reasoning presented as to why such modification would be suggested to one of ordinary skill in the art. The Examiner's attention is directed to MPEP 2143.03 and 2143.01 (I).

Regarding claims 87, 88 and 89 the remarks regarding claim 84 are equally applicable.

Claim Amendments / Interview Request

From the above discussion, it is clear that the current Office Action fails to establish *Prima Facie* unpatentability of any of the claims at issue. However, in the

event the Examiner is interpreting the claim language in a manner inconsistent with the present arguments, Applicants respectfully request the courtesy of a telephone call and/or a personal interview. Applicants are more than happy to travel to the Patent Office to resolve any unresolved issues and is furthermore happy to accommodate clarifying amendments to assure that the claims are interpreted as intended.

No amendments have been made by this response, but a clean copy of the claims are included for the Examiner's convenience.

Concluding Remarks

In view of the above remarks, all claims are believed clearly allowable. Reconsideration and allowance are requested at an early date.

Respectfully submitted,
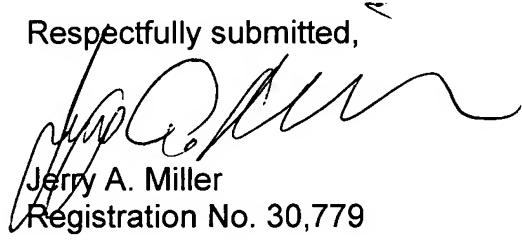
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